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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,549

05/02/2005

Hiroataka Uosaki

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EXAMINER

NOTE, JANIS L

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

08/22/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/533,549	<b>Applicant(s)</b> UOSAKI ET AL.	
	<b>Examiner</b> Janis L. Dote	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/2/05;9/26/06</u>  | 6) <input type="checkbox"/> Other: _____                          |

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1. The examiner has crossed-out the following references:

Japanese Patent (JP) documents 2000-258953, 04-226472, 2002-123033, 04-301853, and 06-258868 listed on the form PTO-1449 filed on May 2, 2005.

Contrary to applicants' statement in the Information Disclosure Statement filed on May 2, 2005, copies of the JP references 2000-258953, 04-226472, 2002-123033, 04-301853, and 06-258868 are not present in the national stage file. See the Form PTO/DO/EO/903 mailed on Dec. 27, 2005, which did not indicate that copies of the documents listed in the international search report are present in the file. See MPEP 609.03 and 1893.03(g).

The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion

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which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper."

Therefore, the JP references 2000-258953, 04-226472, 2002-123033, 04-301853, and 06-258868 cited in the Search Report and listed on the form PTO-1449 filed on May 2, 2005, have not been considered.

Applicants are advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

2. The examiner corrected the incorrect Japanese Patent document number from "50-174853" to -- 59-174853 -- listed on the form PTO-1449 filed in the IDS on May 2, 2005. The examiner also corrected the "status" of JP 11-189647 listed on said form PTO-1449 from "translation" to -- partial translation --. The machine-assisted translation provided by applicants translated the claims and only paragraphs number from 0001 to 0014 of the

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detailed description in JP 11-189647. The detailed description in the JP 11-189647 comprises paragraphs numbered from 0001 to 0056.

3. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g., Henschel mixer [sic: HENSCHEL MIXER] at page 28, line 25, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-4 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 and claims dependent on claim 1 are indefinite in the phrase "wax (c1) having a group selected from a substituent of aromatic structure having 6 to 750 carbon atoms, a hydroxyl group and a carboxyl group" (emphasis added) for improper Markush language. Proper Markush language would be "R is selected from the group consisting of . . . and . . ." or "R is . . . or . . ." MPEP 2173.05(h). Applicants are using a combination of both phrases. Thus, it is not clear what is the scope of the instant claims.

Claim 2 is further indefinite in the phrase "modified polyethylene wax (c3) obtained from a polyethylene wax and a styrene type compound" (emphasis) because it is not clear whether the term "styrene type compound" refers to a styrene compound or a compound that has some property of a styrene compound.

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 1, 3, 4, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by US 7,105,260 B2 (Terauchi), as evidenced by US 5,079,123 (Nanya).

Terauchi discloses a toner comprising a binder resin. The binder resin comprises a polyester resin. See examples 12-14 at col. 16, line 39, to col. 17, line 4, and in Table 4 at cols. 19-22. The polyester resin is obtained by reacting the (a-1) polyester resin  $\alpha$ -7 and the (a-2) polyester resin  $\beta$ -10 with the polyisocyanate, tolylene diisocyanate, in the presence of a carnauba wax. The (a-1) polyester resin  $\alpha$ -7 is obtained by reacting: (1) recycled polyethylene terephthalate (PET); (2) the polycarboxylic acid compound, terephthalic acid; and (3) the polyhydric alcohol compounds, a bisphenol A compound sold under the tradename ACTCALL KB300 from Mitsui Takeda Chemicals, Inc., triethylene glycol, and trimethylol-propane. Col. 15, lines 29-54, and polyester resin  $\alpha$ -7 in Table 1 at col. 17. The (a-2) polyester resin  $\beta$ -10 is obtained by reacting: (1) recycled PET; (2) the polycarboxylic acid compound, terephthalic acid; (3) the polyhydric alcohol compounds, a bisphenol A compound sold under the tradename ACTCALL KB300 and trimethylol-propane; and (4) benzoic acid. Col. 15, lines 29-54, and polyester resin  $\beta$ -10 in Table 2 at col. 18.



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Terauchi does not identify the carnauba wax as a wax that has a carboxyl group as recited in instant claims 1, 3, and 4. However, it is well known in the toner art that conventional carnauba wax generally comprises 3 to 4 wt% of free aliphatic acids. See Nanya, col. 2, lines 37-39. Thus, the carnauba wax used in forming the polyester resin in Terauchi examples 12-14 has a carboxyl group as recited in the instant claims. Accordingly, the Terauchi polyester resins meet the binder resin compositional limitations recited in the instant claims.

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terauchi, as evidenced by Nanya, combined with US 5,928,825 (Eguchi).

Terauchi, as evidenced by Nanya, discloses a toner binder resin as described in paragraph 9 above, which is incorporated herein by reference.

Terauchi does not exemplify a binder resin comprising a polyester resin that is obtained from a modified polyethylene wax obtained from a polyethylene wax and a "styrene type compound" as recited in instant claim 2. However, Terauchi does not limit the type of wax used. Col. 11, lines 12-25. According to Terauchi, "[i]n the present invention, to obtain the binder resin for a toner comprising a wax, it is preferred

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that the polyester resin (a-1) and isocyanate (iii) and, if necessary, the polyester resin (a-2) are reacted in the presence of a wax to use the resulting resin as the binder resin in a toner . . . The isocyanate (iii) is reacted with the polyester in the presence of a wax so that the toner . . . has superior grindability and toner particles with a uniform weight-average particle diameter can be obtained." Col. 11, lines 28-43.

Eguchi teaches a graft-modified polyethylene wax obtained by grafting a styrene monomer to a polyethylene wax, which is in turn obtained by homopolymerizing ethylene in the presence of a metallocene catalyst. The Eguchi modified polyethylene wax meets the compositional limitations of the modified polyethylene wax recited in instant claim 2. The Eguchi graft-modified polyethylene wax has a hexane extraction of not more than 65% by weight. Col. 2, lines 55-62, and preparation example 1 at col. 10, lines 39-47, and in example 1 in Table 1 at cols. 13-14. According to Eguchi, "[a]nti-blocking properties of the wax itself is improved by controlling the hexane extraction of the wax within the above range [of not more than 65% by weight]. When the modified polyethylene wax having a hexane extraction within the above range is incorporated into toner particles, the toner particles exhibits [sic] excellent fluidity without undergoing agglomeration under high temperature

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and high humidity." Col. 8, lines 39-47. Eguchi further teaches that toner particles comprising its modified polyethylene wax exhibit "release properties at a lower temperature" and have "satisfactory anti-offset properties, excellent powder fluidity, and undergoes no blocking phenomenon under high temperature and high humidity." Col. 2, lines 35-40, and example 1 in Table 2 at col. 14.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Terauchi and Eguchi, to use the Eguchi styrene-grafted-modified polyethylene wax as the wax used in forming the polyester binder resins in the toners in Terauchi examples 12-14. That person would have had a reasonable expectation of successfully obtaining a binder resin that when used in a toner as a binder resin, the resulting toner has improved grindability and a uniform weight-average particle diameter as taught by Terauchi, and that exhibits "release properties at a lower temperature" and has "satisfactory anti-offset properties, excellent powder fluidity, and undergoes no blocking phenomenon under high temperature and high humidity" as disclosed by Eguchi.

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11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/21219 A1 (Emura), as evidenced by US 2003/0008225 (US'225), combined with Eguchi.

US 2003/0008225 (US'225), filed under 35 U.S.C. 317, is the national stage of the WO application of Emura, and therefore is presumed to be an accurate English-language translation of the WO application of Emura. 35 U.S.C. 371(c)(2), 372(b), and 365(c). See US'225, the translation of Emura, for cites.

Emura discloses a toner comprising a binder resin and a polypropylene wax. The binder resin comprises a polyester resin. See Emura, example 1 at page 33 and in Table 3 at page 35; and US'225, example 1 in paragraph 0176 and in Table 3 at page 14. The polyester resin is obtained by reacting polyester resin A-1 and polyester resin B-1 with the polyisocyanate, tolylene diisocyanate. Polyester resin A-1 is obtained by reacting: (1) recycled polyethylene terephthalate (PET); (2) the polycarboxylic acid compound, terephthalic acid; and (3) the polyhydric alcohol compounds, a bisphenol A compound sold under the tradename ACTCOL KB300 from Mitsui Takeda Chemicals, Inc., triethylene glycol, and trimethylol-propane. Emura, page 31, lines 7-23, and polyester A-1 in Table 1 at page 32; and US'225, paragraphs 0171 and 0172, and polyester A-1 in Table 1 at page 13. Polyester resin B-1 is obtained by

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reacting: (1) recycled PET; (2) the polycarboxylic acid compound, terephthalic acid; (3) the polyhydric alcohol compound, a bisphenol A compound sold under the tradename ACTCOL KB300; and (4) benzoic acid. Emura, page 31, lines 7-23, and polyester B-1 in Table 2 at page 32; and US'225, paragraphs 0171 and 0172, and polyester B-1 in Table 2 at page 13.

Emura does not exemplify a toner comprising a wax "having a substituent of aromatic structure having 6 to 750 carbon atoms" as recited in instant claim 5. However, Emura does not limit the type of wax used. Emura, the paragraph bridging pages 24 and 25; and US'225, paragraph 0113.

Eguchi teaches a graft-modified polyethylene wax obtained by grafting a styrene monomer to a polyethylene wax, which is in turn obtained by homopolymerizing ethylene in the presence of a metallocene catalyst. The Eguchi modified polyethylene wax is within the compositional limitations of the wax substituted with an aromatic structure having 6 to 750 carbon atoms recited in instant claim 5. The discussion of Eguchi in paragraph 10 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Emura and Eguchi, to use the Eguchi styrene-grafted-modified polyethylene wax as the wax in the toner disclosed by Emura. That person would have

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had a reasonable expectation of successfully obtaining a toner that exhibits "release properties at a lower temperature" and has "satisfactory anti-offset properties, excellent powder fluidity, and undergoes no blocking phenomenon under high temperature and high humidity" as disclosed by Eguchi.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Sandra Sewell, whose telephone number is (571) 272-1047.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Janis L. Dote/  
Primary Examiner, Art Unit 1795

JLD  
Aug. 17, 2008